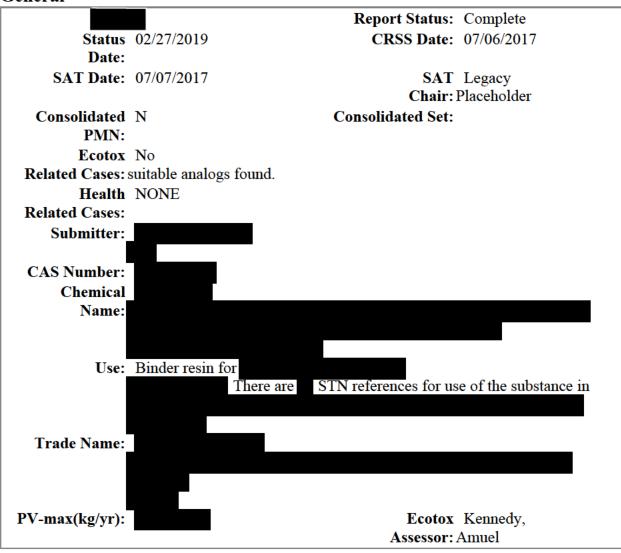
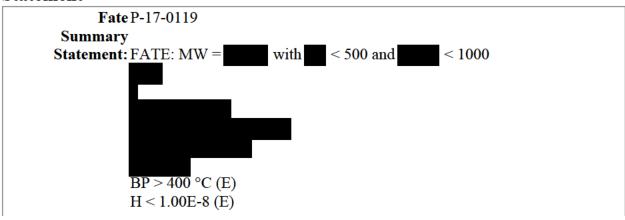
Ecotox Report for Case # P-17-0119

General



Fate Summary

Statement



POTW removal

(%) = PMN 90 via hydrolysis and sorption; then Hyd Pdt 90 via sorption

Time for complete ultimate aerobic biodeg = PMN > mo; Hyd Pdt > mo

Sorption to soils/sediments = PMN v.strong; Hyd Pdt v.strong

PBT Potential: PMN P1B1; Hyd Pdt P3B1

*CEB FATE: Migration to

ground water = PMN negl; Hyd Pdt negl

PMN Material:

Overall

wastewater treatment removal is 90% via hydrolysis and sorption.

Sorption to sludge is strong based on high molecular volume.

Air

Stripping (Volatilization to air) is negligible based on high molecular volume.

Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.

The aerobic aquatic

biodegradation half-life is greater than months based on high molecular volume.

The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is very strong based on high molecular volume.

Migration to groundwater is negligible based on

high molecular volume.

PMN Material:

Low Persistence (P1) is

based on slow hydrolysis (hydrolysis half-life: weeks).

Low

Bioaccumulation potential (B1) is based on slow hydrolysis (hydrolysis half-life: weeks).

Hydrolysis Product:

Overall wastewater

treatment removal is 90% via sorption.

Sorption to sludge is strong

based on high molecular volume.

Air Stripping (Volatilization to

air) is negligible based on high molecular volume.

Removal by

biodegradation in wastewater treatment is negligible based on high molecular volume.

The aerobic aquatic biodegradation half-life is greater than months based on high molecular volume.

The anaerobic

aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to

soil and sediment is very strong based on high molecular volume.

Migration to groundwater is negligible based on high molecular volume.

Hydrolysis Product:

High Persistence (P3) is based on the

anaerobic biodegradation half-life and high molecular volume.

Low

Bioaccumulation potential (B1) is based on high molecular volume.

Bioconcentration/Bioaccumulation factor to be put into E-Fast: N/A

Physical Chemical

Information

Molecular	
Weight:	
Wt% < 500:	Wt% < 1000:
Physical	
State - Neat:	
Melting	Melting
Point:	Point (est):
MP	
(EPI):	
Vapor Pressure:	Vapor Pressure (est): <0.000001
VP (EPI):	
Water Solubility:	Water Solubility (est): <0.000001/Reacts
	slowly
Water Solubility	
(EPI):	
Henry's Law::	
Log Koc:	Log
	Koc (EPI):
Log	Log
Kow:	Kow (EPI):

Log	
Kow Comment:	

SAT

Concern Level

Ecotox 1

Rating (1):

Ecotox

Rating Comment

(1):

Ecotox Rating

(2):

Ecotox

Rating Comment

(2):

Ecotox Route of No releases to

Exposure: water

Ecotox Comments

Exposure N
Based Review
(Eco):
Ecotox
Comments:
Exposure Based
Testing:

PBT Ratings

Persistence	nce Bioaccumulation Toxicity		Comments		
1	1	2	PMN		
3	1	2	Hyd Pdt		

Eco-Toxicity Comment:

Fate Ratings

Removal 9 in WWT/POTW (Overall): Condition	00;90 Rating		Rati	ng Descript	ion	Comment
	Values	1	2	3	4	
Fish BCF:						

Removal 9	00;90					
(Overall):						
Condition	Rating		Rating 1	Description		Comment
	Values	1	2	3	4	
Log Fish BCF:						
WWT/POTW	3;3	Low	Moderate	Strong	V. Strong	
Sorption:						
WWT/POTW	4;4	Extensive	Moderate	Low	Negligible	
Stripping:						
Biodegradation	4;4	Unknown	High	Moderate	Negligible	
Removal:						
Biodegradation		Unknown	Complete	Partial		
Destruction:		_				
Aerobic Biodeg	4;4	<= Days	Weeks	Months	> Months	
Ult:			XX 1	3.6 .4	> 3.6 - d	
Aerobic Biodeg		<= Dava	Weeks	Months	> Months	
Prim: Anaerobic	4.4	Days	Weeks	Months	> Months	
Biodeg Ult:	4;4	<= Days	weeks	Monns	> Months	
Anaerobic		<=	Weeks	Months	> Months	
Biodeg Prim:		Days	WEEKS	Monins	/ Wionins	
Hydrolysis (t1/2		<=	Hours	Days	>=	Si-OR
at pH		Minutes	110015	Days	Months	SI OIC
7,25C) A:						
Hydrolysis (t1/2		<= Minutes	Hours	Days	>= Months	
at pH 7,25C) B:				-		
Sorption to	1;1	V.	Strong	Moderate	Low	
Soils/Sediments:		Strong				
Migration to	1;1	Negligible	Slow	Moderate	Rapid	PMN negl;
Ground Water:						Hyd Pdt
			~1			negl
Photolysis		Negligible	Slow	Moderate	Rapid	
A, Direct:		Nt12 '9.1	C1	M-1 4	D: 1	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
		Maglicible	Clow	Moderate	Danid	
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid	
A, OH: Atmospheric Ox		Negligible	Slow	Moderate	Rapid	
B, O3:		regugioid	SIOW	Moderate	rapiu	
Bio Comments: F	PMN:Hvd	Pdt. The PMN	V substance i	may react slo	wlv	
	weeks) to		, substance	, resulting in		
		oups on the po	lymer backl			es are
	J		-		-	

Removal 90;90 in WWT/POTW

(Overall):

Condition Rating Rating Description Comment Values 1 2 3 4

available

for this case.

Fate PMN Material:

Comments: Overall

wastewater treatment removal is 90% via hydrolysis and sorption.

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Sorption to soil and sediment is very strong based on high molecular volume.

Migration to groundwater is negligible based on

high molecular volume.

PMN Material:

Low Persistence (P1) is

based on slow hydrolysis (hydrolysis half-life: weeks).

Low

Bioaccumulation potential (B1) is based on slow hydrolysis (hydrolysis half-life: weeks).

Hydrolysis Product:

Overall wastewater

treatment removal is 90% via sorption.

Sorption to sludge is strong

based on high molecular volume.

Air Stripping (Volatilization to

air) is negligible based on high molecular volume.

Removal by

biodegradation in wastewater treatment is negligible based on high molecular volume.

The aerobic aquatic biodegradation half-life is

Removal 9	0;90					
in WWT/POTW (Overall):						
Condition	Rating		Rati	ng Descripti	on	Comment
	Values	1	2	3	4	
			sed on hig	h molecular	volume.	
	The anaerol	-	1 101:0 :	1	,1 1	1 .1
		_		_	n months base	
		_			ic biodegrada aerobic biode	ation half-life
	alf-life.	to be great	ei man or i	equal to the a	actobic blode	gradation
	Sorption to					
	-	iment is ve	ry strong b	ased on high	n molecular v	volume.
N	Migration to	o groundwa	iter is negl	igible based	on high mole	ecular volume.
]]	Hydrolysis	Product:				
		tence (P3) i	is based on	the		
	-	, ,			olecular volu	ıme.
	LOW					
E	Bioaccumul	ation poten	ntial (B1) i	s based on hi	gh molecula	r volume.
	Bioconcents I/A	ration/Bioa	ccumulatio	on factor to b	e put into E-	Fast:

Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental Comments
Fish	96-h	LC50	*	Toxicity predictions are based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer); * = no effects at saturation
Daphnid	48-h	LC50	*	Toxicity predictions are based on the negligible water solubility of P-17-0119

Test organism	Test Type	Test Endpoint	Predicted	Experimental Comments
	261	F.G.50		(insoluble nonionic polymer); * = no effects at saturation
Green Algae	96-h	EC50	*	Toxicity predictions are based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer); * = no effects at saturation
Fish	-	Chronic Value	*	Toxicity predictions are based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer); * = no effects at saturation
Daphnid		Chronic Value	*	Toxicity predictions are based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer); * = no effects at saturation
Green Algae	-	Chronic Value	*	Toxicity predictions are based on the negligible water solubility of P-17-0119

Test organism	Test Type	Test Endpoint	Predicted	Experimental Comments
				(insoluble
				nonionic
				polymer); $* = no$
				effects at
				saturation

Ecotox Value Toxicity predictions are based on the negligible

Comments: water solubility of P-17-0119 (insoluble nonionic polymer); MW with <500, <1000; solid with an unknown mp (P);

S=<0.000001/Reacts slowly; effective concentrations based on 100% active ingredients and nominal concentrations; hardness <150 mg/L as CaCO3; and TOC <2.0 mg/L.

Ecotox Factors

Factors	Most	Assessment	CoC	Comment
	Sensitive Endpoint	Factor		
Acute Aquatic (ppb): Chronic Aquatic (ppb):				Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified. Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified.
Factors	Va	lues	Comments	
SARs:	Nonionic Po	lymers		
SAR Class:				
	Polymers			
TSCA NCC			1	
Category?	Alkoxysilane	S		

Recommended

Testing:

Ecotox Factors Environmental

Comments: Hazard: Environmental hazard is relevant to whether a new chemical

substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using predictions based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer; MW with 500, 500, 1000). Acute and chronic toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified.

Environmental Risk: Risks to the environment from acute and chronic exposure are not expected at any concentration of the new chemical substance soluble in the water (i.e., no effects at saturation).

Comments/Telephone

Log

